

M.Sc.

4th Semester Examination - 2019

ZOOLOGY

Paper - ZOO 401

Full Marks : 40

Time : 2 Hours

The figures in the margin indicate full marks.

*Candidates are required to give their answers
in their own words as far as practicable.*

Group - A

**(Biodiversity, Pollution and
Environmental Management)**

1. Answer any *two* questions from the following :

2×2

- (a) What do you mean by point and non-point source pollutants?
- (b) Define ecodegradation and pollution.
- (c) Differentiate Sanctuary from the National park.
- (d) Explain SPM and RSPM.

[Turn Over]

2. Answer any *two* questions of the following : 2×4

- (a) Briefly highlight the impact of oxygen demanding wastes on aquatic ecosystem.
- (b) Enlist important techniques of wildlife conservation.
- (c) Mention the sources of different soil pollutants leading to deterioration of soil quality.
- (d) Briefly explain different types of sustainable development.

3. Answer *one* question of the following : 1×8

- (a) Mention the criteria for designating an area as "Biodiversity Hotspot". Schematically represent the goods and services of biodiversity. Add a note on the major components of Green Movement. $3+3+2$
- (b) Explain how Green House Gases are involved in global warming. Enlist different environmental impacts of Green House Effect. $4+4$

(3)

Group - B

(Endocrinology & Neurobiology)

4. Answer any *two* questions from the following : 2×2
- (a) State the role of calcium in synaptic transmission. 2
 - (b) What are the Pathogenicity of Parkinson's disease ? 2
 - (c) How does the neural structure of *Pila* sp differ from cuttle fish ? 2
 - (d) Write short notes on : "All or none Principle". 2
5. Answer any *two* questions of the following : 2×4
- (a) What are the clinical features of Alzheimer's disease ? Explain the role of Tau-protein in the said disease. 1+3
 - (b) Differentiate between Voltage-gated sodium and potassium channels in axonal transport. 4
 - (c) Explain how neurosecretory cell secretions influence moulting in insects ? 4

[Turn Over]

(d) Write short notes on the following : 2×2

(i) Classes of neurons in the retina.

(ii) Hypothalamic regulation of PRL-Secretion.

6. Answer any *one* question of the following : 1×8

(a) Discuss how Chemical cues induce GtH-II secretion and ovulation in teleosts ? 8

(b) Write short notes (any *four*) of the following : 2×4

(i) Hair cells.

(ii) Olfactory Sensory Neurons (OSN)

(iii) Neuroimaging.

(iv) Cranial Nerves in Amphibia.

(v) Neural network in Cockroach.

(vi) Histological staining of neural cells.
